RESEARCH, DEVELOPMENT & TECHNOLOGY TRANSFER
QUARTERLY PROGRESS REPORT

Wisconsin Department of Transportation
DT1241 02/2011

INSTRUCTIONS:
Research project investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT research program category: ☐ Policy research ☒ Wisconsin Highway Research Program ☐ Other ☐ Pooled fund TPF#		Report period year: 2013 ☐ Quarter 1 (Jan 1 – Mar 31) ☒ Quarter 2 (Apr 1 – Jun 30) ☐ Quarter 3 (Jul 1 – Sep 30) ☐ Quarter 4 (Oct 1 – Dec 31)
Project title: Evaluation of the Foundation Movements of Transportation Structures		
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WisDOT project ID: 0092-09-05	Other project ID:	Project start date: 2/5/2009
Original end date: 2/5/2012	Current end date: 12/31/2013	Number of extensions: 2

Project schedule status:
☐ On schedule ☒ On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Project budget status:

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
$109,893.00	$6,801.00	$95,825.19	87%	88%

Project description:
The overall research objective of this study is to produce a document summarizing simplified design procedures for evaluation of foundation movements for transportation structures within the LRFD framework. Recommendations for the measurement methods of input parameters for those design procedures will also be provided.

Progress this quarter:
- PhD student Max Garnier Villarreal has been working in this project and has been collecting deformation data from different bridges.
- In the last three quarters, Mr. Garnier has installed survey targets in new bridges being built on State Highway 51 in Sun Prairie. The research team performed recognition and has continued to instal survey markers and other deformation instrumentation at the site.
- Survey markers were installed in several bridges on these sites and measurements have been taken to evaluate the deformation of the structures over the winter before the bridges are open to traffic. However, during the winter the reference marker used by the contractor were removed and we had to installed new markers to start the measurements once again. We also installed concrete blocks and survey points outside the construction area to avoid problems and be able to maintain correct reference points (i.e., permanent reference points).
- The bridges built on highway 51 were continued to be monitored for foundation movement deformations.

- Literature review was continued for stiff foundations and the GRS-IBS bridge system.
- The results from the deformation stiff foundations in Highway 51 and a GRS-IBS bridge in Bloomer, WI are being compared to assess how very different bridges are behaving.

Anticipated work next quarter:
Field monitoring of the bridges will continue to gather more data, to analyze the behavior of transportation foundation structures over a longer period of time, Survey markers would also be installed as the bridges are finished and old reference points are removed.

Circumstances affecting project or budget:
The road is being open for traffic this summer and we are installing surveying points on the new structures on the SB/EB lane bridges. The monitoring of the data will be longer than the period allocated to the project.

Attach / insert Gantt chart and other project documentation

FOR WISDOT USE ONLY

Staff receiving QPR:	Date received:
Staff approving QPR:	Date approved: